

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
6 May 2005 (06.05.2005)

PCT

(10) International Publication Number
WO 2005/041449 A1

(51) International Patent Classification⁷: **H04B 10/08**

(21) International Application Number:

PCT/BE2004/000154

(22) International Filing Date: 27 October 2004 (27.10.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/514,625 27 October 2003 (27.10.2003) US
04447107.6 30 April 2004 (30.04.2004) EP

(71) Applicant (for all designated States except US): **FAC-
ULTE POLYTECHNIQUE DE MONS [BE/BE]**; Rue
de Houdain, 9, B-7000 MONS (BE).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **WUILPART, Marc**
[BE/BE]; Route du Lion 131 bte 32, B-1420 BRAINE-
L'ALLEUD (BE).

(74) Agents: **VAN MALDEREN, Joëlle et al.**; pronovem - Of-
fice Van Malderen, Avenue Josse Goffin 158, B-1082 Brux-
elles (BE).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

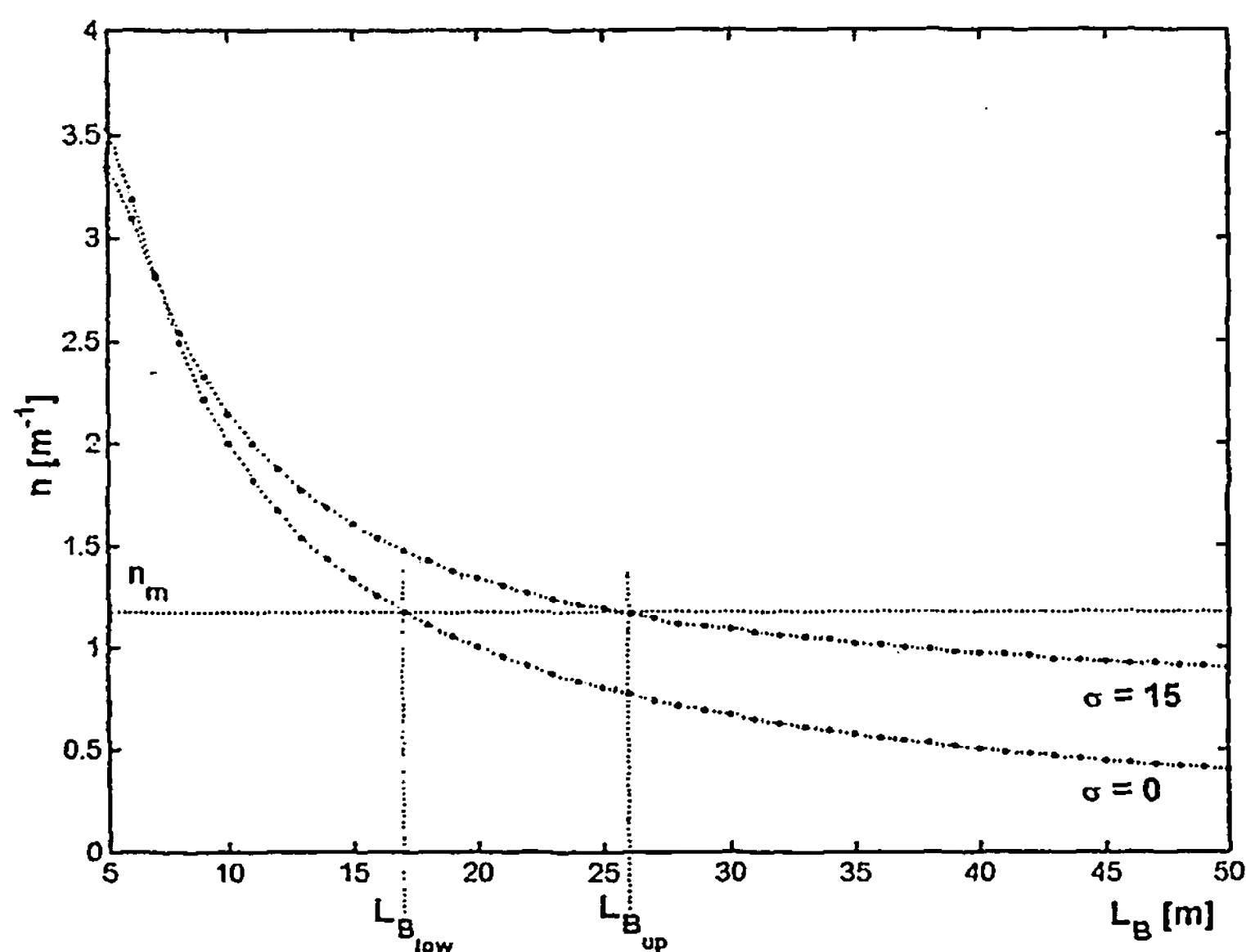
(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: METHOD FOR CHARACTERISING AN OPTICAL FIBRE LINK



(57) Abstract: The present invention is related to a method for characterising an optical link by its beat length, coupling length and polarisation mode dispersion, comprising the steps of : - sending a pulsed signal along said optical fibre link and measuring the backscattered signal (being a POTDR signal), after passing through a polariser, - deriving the length of said optical fibre, the average power difference between two successive minima of said backscattered signal and the number of maxima per unit length, - in an iterative way determining a beat length interval and an interval for the polarisation mode coupling parameter, until the length of said intervals is below a predetermined value, yielding a value for the beat length and the coupling length, - calculating the polarisation mode dispersion.

WO 2005/041449 A1